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# RECENT DEVELOPMENTS IN THE WORK OF THE DOMINION BUREAU OF STATISTICS



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## RECENT DEVELOPMENTS IN THE WORK OF THE DOMINION BUREAU OF STATISTICS<sup>1</sup>

This note is the fourth of a series, whose purpose is to keep readers of the Journal in touch with the evolution of statistical programmes in Canada. The previous notes were published in November, 1959, February, 1961, and February, 1962, and readers are referred to them since a project once initiated is not mentioned again until a significant stage in its development can be marked off.

In education statistics work is being extended in the field of vocational training. In the area of judicial statistics some new developments in connection with the adoption of uniform reporting systems have taken place. Studies based on the Labour Force Survey of the work experience of Canadians in 1961 and of the labour force status of post-war immigrants have been initiated during the year. Some new price series have been released. Improvements are taking place in statistics on Canada's international investment position. The major aggregates of the 1958 survey of farm expenditure and income have been published. Certain other developmental work in the area of agricultural statistics are taking place as well as some major improvements in forestry statistics. New information has become available on consumer finances. Some of the existing gaps in statistics of public finance have been closed with the publication of a report on Federal government enterprises. A new publication on balance sheet data of financial corporations will become available early in 1963. A new report on non-financial aspects of all pension plans was released late in 1962. The so-called real output study is nearing publication. Construction of the 1961 inter-industry flow of goods and services is about to begin. Work on preliminary estimates of the gross and net stock of capital and of capital consumption allowances has been resumed. Revisions to the Standard Classification Manual are being published. The standard list of establishments is now virtually complete. Finally, for users of historical data, the Bureau is preparing to publish about 30 selected series extending back to the inter-war period or longer.

### Social Statistics

A manual for secretary-treasurers of school boards is a new development in the field of school finance. This manual is being prepared in cooperation with the provincial departments of education, the Canadian Teachers' Federation, the Canadian Education Association and the Canadian School Trustees Association. Work is being extended in the area of vocational training; private trade schools, including private correspondence schools, are now being covered. The University Student Income and Expenditure Survey, which is undertaken periodically, is being brought out for the year 1961-1962.

As for judicial statistics, the new Uniform Crime Reporting system was implemented in January, 1962, and follow-up meetings have been held on a regional basis to deal with its consistent applica-

tion. Preliminary meetings have been held with the provincial attorneys general leading up to a proposed future conference on adult court statistics. On April 1, 1962, an improved penitentiary statistical form was put into effect in cooperation with federal penitentiary authorities. On January 1, 1963, a new training school schedule is to be put into operation and a Training School Reporting Manual has been prepared. A revised statistical report on police administration is in preparation.

### Economic Statistics

The interdepartmental labour force advisory committee has given attention to exploiting more fully available sources on labour statistics. Analytical reports on two such projects in connection with the Labour Force Survey are well advanced. One study has to do with the work experience of Canadians in 1961; it is based on a special enquiry made in January, 1962, in which a quarterly record was obtained of weeks worked, weeks looking for work, and weeks not in the labour force. The other study deals with the labour force characteristics of post-war immigrants; since 1956, post-war immigrants in the Canadian labour force have been identified twice each year in the labour force surveys.

Until 1962, new and renewal claims for unemployment insurance benefit were not recorded separately. It is believed that changes in the industrial distribution of new claimants would be a more sensitive indicator of shifts in the industrial sources of unemployment than total claimants. Accordingly, the new claims series has been added to the range of unemployment insurance statistics.

The monthly survey of employment and payrolls is being revised to agree with the New Standard Industrial Classification and the Standard Establishment List and is to adopt a new 1961 base for the index numbers.

In the past, the monthly estimates of labour income did not provide provincial breakdowns for the Maritime and the Prairie regions. Such breakdowns are being made available, together with historical data.

An occasional paper entitled *Unemployment in Canada* was released in April, 1962.<sup>2</sup> The paper consists of tables and charts.

Work on the development of productivity measures has progressed in two directions. The first approach aims at producing overall national mea-

<sup>1</sup> This article was originally published in the *Canadian Journal of Economics and Political Science*, February 1963 and is reproduced here by kind permission of the Editor. Reprints of this article are available on request to the Information Services Division, Dominion Bureau of Statistics.

<sup>2</sup> Catalogue No. 71-503, Queen's Printer, Ottawa, 75¢.

asures which will indicate productivity trends in the private, non-farm economy as a whole and in some of its major sectors; the second to produce, for selected individual manufacturing industries and groups of industries, detailed measures suitable for the analysis of the nature of movements and variations in productivity. Most of the current work consists of pilot studies and tests designed to indicate the most suitable data sources for productivity measures, and to develop the best methods of refining and matching the required input and real output series. This work is important in itself due to its contribution to a closer integration and improvement of various other important statistical series.

Following completion of the revision of the national Consumer Price Index in May, 1961, work proceeded throughout the remainder of 1961 and early 1962 on revising the ten regional city consumer price indexes. The items included in these indexes, and their weights, have been brought into line with current family expenditure habits as recorded in surveys covering the year 1957. The indexes previously were based on expenditure patterns in 1947-1948. The revised indexes continue on the time base 1949=100. The methods and techniques employed in revising these city indexes are identical to those used in revising the national Consumer Price Index; a comprehensive review of these is available in *The Consumer Price Index for Canada (1949=100)—Revision Based on 1957 Expenditures*.<sup>3</sup>

In April, 1962, DBS introduced a special study on average rents in 16 major Canadian cities based on rent data obtained from rented households in the Labour Force Survey. These data are used primarily in measuring rent changes as a component of consumer price indexes in Canada. These statistics on average rents have been developed as a result of a widespread demand for information on rent levels associated with various types and sizes of rental accommodation and the services included in rent payments. Average rents have been cross-classified by these various attributes. It is intended to make current statistics available periodically in *Prices and Price Indexes*.<sup>4</sup> A comprehensive description of the series together with data for sixteen cities is available in *Residential Rents in Major Canadian Cities*.<sup>5</sup>

The programme of continuing family expenditure surveys was resumed in 1962, after a lapse of almost two years instead of the customary one-year interval, occasioned by the fact that 1961, which would normally have been a survey year, was also a census year. The 1962 survey programme was planned with the needs of the Consumer Price Index as a primary consideration. Food expenditure detail for the purpose of studying seasonal expenditure

patterns is being collected monthly in seven major cities, and a recall survey of the total budget for the year will be conducted early in 1963.

In the food expenditure survey, monthly samples of about one hundred and fifty families are asked for weekly records of food expenditure for a period of four weeks. As in past surveys, the sample is drawn from lists of families rotated out of the Labour Force sample approximately six months earlier. Eligibility criteria of family composition are the same as those applied in 1957, and earlier surveys, whereas the family income range has been raised at both limits to include families with incomes between \$3,000 and \$7,500. The collection of four weekly records instead of two was designed to determine whether the shorter period provides adequate estimates of monthly food expenditure. It also affords an experiment in response for a longer record-keeping period than has been attempted hitherto in this country. The scope of the annual recall survey will be similar to that of the food survey, although there may be some adjustments in target-group criteria on the basis of analysis of 1959 survey data. According to present plans the total budget survey will be processed by computer, which, it is hoped, will result in some gain in timeliness of the published data. A preliminary release of 1959 survey results was made in the DBS Daily Bulletin of May 23rd. The reference paper *City Family Expenditure, 1959*, is now in preparation and, it is hoped, will be released before the end of 1962.

A new reference paper released in September, 1962, presents a full description of concepts, definitions, sources of data and methods of calculating *Price Indexes of Highway Construction in Canada*.<sup>6</sup> The report covers previously published base-weighted indexes of prices paid by provincial and federal governments in contracts awarded for highway construction, and introduces recently developed current-weighted indexes. Annual indexes for the four-year period 1956 to 1959 are presented and compared. The time base for the indexes is 1956 and the indexes express prices paid each year as a percentage of prices in 1956. The series will be published on a regular annual basis in *Prices and Price Indexes*.<sup>7</sup> Prices contained in the index are not for units of labour and materials as is usually the case in construction price indexes but rather for units of construction work such as, an acre of clearing, a cubic yard of earth excavation, or a ton of hot-mix bituminous paving. In addition, the index contains prices of some materials, such as culvert pipe, usually supplied to the contractor by the highway departments.

Revised security price indexes on the base 1956=100 were introduced in the July issue of *Price Movements*<sup>8</sup> and the June issue of *Prices and Price Indexes*.<sup>9</sup> In addition to a descriptive outline of the revision, both publications included revised

<sup>3</sup> Catalogue No. 62-518, Occasional, Queen's Printer, Ottawa, 75¢.

<sup>4</sup> Catalogue No. 62-002, Queen's Printer, Ottawa, 30¢.

<sup>5</sup> Catalogue No. 62-519, Occasional, Queen's Printer, Ottawa, 50¢.

<sup>6</sup> Catalogue No. 8230-501, Queen's Printer, Ottawa, 50¢.

<sup>7</sup> Catalogue No. 62-002, Queen's Printer, Ottawa, 30¢.

<sup>8</sup> Catalogue No. 62-001, Queen's Printer, Ottawa, 10¢.

<sup>9</sup> Catalogue No. 62-002, Queen's Printer, Ottawa, 30¢.

indexes by months, from January 1956 for the Investors Index, its major components and the Mining Index. The price reference base for the indexes is the year 1956, which has been adopted as an interim base for recently developed DBS indexes, and the indexes express current prices as a percentage of price in 1956. Security price indexes measure through time the effect of price change on the value of portfolio of stocks bought and held by a hypothetical investor (as opposed to the more speculative trader). The portfolio represents stocks of Canadian companies listed on the Toronto, Montreal and Canadian stock exchanges. In the revised indexes, a major change is the classification of stocks according to the Standard Industrial Classification. The new classification involved extensive re-grouping of stocks within the index and facilitated inclusion of groups not previously covered, e.g., pipeline and investment and loan stocks. As a result, weights representing the relative importance of individual stocks and groups of stocks were appreciably revised, particularly in the Investors Index. A reference paper is planned.

The Wholesale Price Index of Canadian Farm Products at terminal markets, 1935-39=100, is to be replaced by a new series entitled "Index Numbers of Prices Paid for Canadian Primary Farm Products, 1956=100". Complete details of commodity content, weighting, and construction methods will be contained in a reference paper which will also carry indexes monthly and annually from January, 1956. The major change between the existing and the new indexes relates to the marketing level at which the commodities are priced. The existing index measures the movement of producers' prices at terminal markets. The new indexes will measure the movement of prices paid by purchasers at the point of entry of the farm products into exports, domestic processing, and domestic fresh market. This shift in the pricing point was undertaken to permit production of indexes which are immediately comparable with indexes for past years. Under present marketing procedures for Western grains, particularly wheat, final prices to producers are announced many months after the end of the crop year, during which time indexes are subject to frequent and major revision and lack comparability with preceding crop years. Somewhat similar problems exist where Canadian farm products are marketed under deficiency payments programmes. The new indexes will measure price movements for three Canadian primary farm product flows at their point of entry into (1) exports, (2a) domestic processing, and (2b) domestic fresh market. The price reference base for the new index will be 1956 and the indexes will express current prices as a percentage of prices in 1956.

In connection with Canada's international investment position, a new benchmark for estimating Canadian ownership of United States stocks has been established. The benchmark statistics are important in themselves but also as a verification of the adequacy of the system of measuring capital flows and as a basis for future estimates of income receipts from these holdings, capital flows arising from offerings to shareholders, retirements, etc.

The satisfactory response to the same recent survey will make it possible to provide additional detail of Canadian holdings of United States stocks classified by size of total Canadian investment, by industry, and by certain other characteristics such as the existence of interests in Canada. It will also be possible to produce a broad comparison between book values of these holdings as used in statements of Canada's international investment position and market values.

Development work in the field of short-term capital movements, which involves new or improved series of statistics for (i) chartered bank liabilities to and claims on foreigners; (ii) treasury bill transactions; (iii) buy-backs; (iv) commercial paper; (v) finance paper; (vi) inter-company balances; and (vii) finance company borrowing; as well as changes in the use made within the Canadian quarterly data of foreign statistical series, is virtually complete and improvements are being incorporated into the statistics.

The distribution by size and industry of foreign-controlled investments in Canada, a study which is undertaken periodically, is now available for the end of the year 1960 and will be incorporated into the bulletin *The Canadian Balance of International Payments and International Investment Position*.<sup>10</sup> Some of the findings were analysed in a note in the Canadian Statistical Review for August, 1962.

Some of the results of the 1958 Farm Expenditure and Income Survey, which provides data on aggregates of farm expenditure and income, farm indebtedness and farm capital were published late in 1962. The Bureau carried out a critical evaluation of the information available from the above-mentioned survey and from other sources on farm power machinery operating costs with a view to drawing estimates consistent with the farm finance series.

The Bureau undertook a revision of the crop, livestock, poultry and dairy series for the inter-censal years to conform with the beginning and ending benchmarks of the 1956 and 1961 censuses of agriculture. This project involved an evaluation of the methods of estimating statistics for the five-year period for the purposes of determining the actual revisions to be made and deciding on the methods to be used for the 1961-1966 period.

At the request of the Department of Agriculture the Bureau made an analysis of its yield data with a view to establishing actuarially sound premium rates for a proposed crop insurance scheme covering potato production in the province of Prince Edward Island.

In an effort to obtain alternative and more reliable sources of farm prices information for beef cattle and calves, the Bureau undertook an experimental survey of producers in Alberta. The results

<sup>10</sup> Catalogue No. 67-201, Queen's Printer, Ottawa, \$1.00.

of this survey will be used for the published estimates of farm cash income and the farm price index. If successful in Alberta, this survey will be extended to other provinces.

The 1961 Federal-Provincial Conference on Agricultural Statistics had recommended that special efforts continue to be made to improve methods of estimating production of potatoes in all provinces. At present estimates are considered to be unsatisfactory in all provinces except the Maritimes. In this connection, the Bureau undertook, in cooperation with the province, a survey of commercial potato producers in Alberta.

Following experimental surveys in the province of Nova Scotia, the Bureau undertook in 1962 an annual survey of fruit tree numbers in the provinces of Ontario, Quebec, and Nova Scotia. Such information would be of considerable use in estimating future trends in the industry.

The provinces collect statistics of primary forestry production from Crown lands but none except Quebec and British Columbia collect data on production from private woodlots, which in at least one province represents almost 95 per cent of all production. In an effort to fill this gap in forestry statistics the Bureau initiated a survey of private woodlots (including farm woodlands) several years ago. At present the survey is province-wide in Prince Edward Island, Nova Scotia and New Brunswick, and covers a large part of Ontario. Arrangements are being made to bring in the other provinces. This survey is carried out in cooperation with the Department of Forestry and the provincial governments. A Federal-provincial conference on forestry statistics is scheduled to take place in March of 1963 and preparations are under way for it.

Some improvements can be reported in the field of transportation statistics. Arrangements have been completed to expand the annual Shipping Report to make available origin and destination data on cargoes loaded and unloaded for both foreign and coast-wise shipping at the eight largest Canadian ports. These data are to be produced as Part IV of the annual Shipping Report series and the first issue, covering the year 1961, is expected to be released by the end of 1962. Similar data are being compiled for the seventeen next largest Canadian ports and will be available on request. Plans are well under way to produce Part V of the Shipping Report series which will contain traffic flow data for eight selected commodities.

To improve timeliness the annual Motor Carrier Report is to be broken down and published in two separate reports effective 1962. Part I will contain data pertaining to Class 1 and 2 carriers; Part II will contain data for Class 3 and 4 carriers. These classes are based on the total gross annual operating revenues. The development of a quarterly Motor Carrier Report is now well under way with a pilot study being carried out in the Province of Ontario. If successful the pilot study will be expanded into a national survey.

As of January, 1960 the commodity data produced in the Shipping, Canals, and Motor Transport Traffic Series, have been converted to the revised DBS Standard Commodity Classification. The commodities carried by rail are coded according to the classification adopted by the Association of American Railroads and a reconciliation with the Bureau's Standard Commodity Classification is in progress of development. It is expected to be effective for approximately 85 to 90 per cent of the total tonnage of goods carried.

Turning to consumer finances, the results of the income survey taken in the spring of 1960 were released in the first half of 1962 in the publication *Distribution of Non-Farm Incomes in Canada, by Size, 1959*.<sup>11</sup> The publication is similar to those released previously for the years 1951, 1954 and 1957 although some new data are available. This is the first survey to analyse income by level of educational attainment. In addition, a section is included on the characteristics of automobile owners by income and other family characteristics as well as data on the characteristics of automobiles owned by families.

Another survey was conducted in the spring of 1962 in respect to incomes received in 1961. A new feature of this survey was the inclusion of expanded questions on work experience during 1961. It is expected that the results of the survey will be released in the middle of 1963.

The processing of the income data from the twenty per cent sample of non-farm households interviewed as part of the 1961 Census of Canada is now in progress. The release of data from this sample was originally scheduled for 1963. However, the processing will take longer than originally anticipated and publication will not start until at least early 1964. The main income statistics from the sample will be released in Volume IV of the Census reports.

A major gap in published statistics on government finance was closed in the fall of 1962 with the publication of an annual series entitled *Financial Statistics of Federal Government Enterprises*.<sup>12</sup> This report provides tabulations on assets, liabilities and net worth, and on current revenue and expenditure and net surplus account transactions for the years 1958, 1959 and 1960, grouped according to the Standard Industrial Classification. The report also contains material on concepts and definitions as well as some analysis of the data.

Information on assets and liabilities of provincial government liquor commissions was published for the first time in the last annual report *Control and Sale of Alcoholic Beverages in Canada*.<sup>13</sup>

<sup>11</sup> Catalogue No. 13-517, Queen's Printer, Ottawa, 75c.

<sup>12</sup> Catalogue No. 61-203, Queen's Printer, Ottawa, 75c.

<sup>13</sup> Catalogue No. 63-202, Queen's Printer, Ottawa, 50c.

Additional tables were introduced in the latest edition of *Financial Statistics of Municipal Governments - Actual*<sup>14</sup> showing a breakdown, by province, of net general revenue and expenditure and of total direct and indirect debt less sinking funds. These data appeared formerly only at the national level in the report *A Consolidation of Public Finance Statistics*.<sup>15</sup>

A new quarterly publication covering balance sheet data of trust companies, mortgage loan companies, and instalment finance and other loan companies, will be initiated early in 1963. This work forms part of a larger quarterly survey of corporation balance sheets but it will be at least another year before results are available for non-financial corporations.

As part of the seasonal adjustment programme, the publication of seasonally adjusted series for manufacturing orders, inventories and shipments by economic use classification was begun in April, 1962. In May of that year the Bureau published the annual Supplement to the Canadian Statistical Review, thereby providing the complete back record for the more important seasonally adjusted series.

The growth in the importance of pension plans as a medium of personal saving has prompted the Bureau to undertake new work in this area. A survey that has been in progress for some time reached publication late in 1962 when *Pension Plans - Non-Financial Statistics 1960*<sup>16</sup> was released. This new survey covers all pension plans and provides information on the general structure of the plan, employment coverage and eligibility, retirement, etc.

The work of estimating in base year dollars gross domestic product by industry of origin, the so-called real output study, has advanced to the point where the reference paper is completed and circulated for comment at the time of writing; it is hoped that the paper will be published early in 1963. The statistical tables will provide annual data from 1935 on and seasonally adjusted and unadjusted quarterly data from 1946 on.

<sup>14</sup> Catalogue No. 68-204, Queen's Printer, Ottawa, 50¢.

<sup>15</sup> Catalogue No. 68-202, Queen's Printer, Ottawa, 50¢.

<sup>16</sup> Catalogue No. 74-505, Occasional, Queen's Printer, Ottawa.

It is expected that construction of the 1961 table on the inter-industry flow of goods and services will commence early in 1963 when final data from the 1961 Census of Manufactures begin to emerge. Preliminary plans call for roughly forty industry groups in manufacturing; the number of groupings in other industrial divisions will depend on an assessment of the data and the resources available.

Work on the preparation of estimates of the gross and net stock of capital and of capital consumption allowances by industry, interrupted during the past fiscal year, has been resumed. Preliminary estimates for most industries have been completed and are now being examined for their conceptual significance and statistical limitations. Following such examination, a decision as to publication of the estimates will be made.

Turning to classification systems, a French edition of the Standard Industrial Classification manual was published late in 1962. Volume I of the Standard Commodity Classification Manual is being revised (1) to take account of changes arising out of the work done in adapting it to exports and imports; (2) to take account of new developments in certain commodity fields. Amended pages will be made available. Volume II—the Classified Index—will be completely revised incorporating the changes made in Volume I and adding new commodity terms. Volume III of the Manual—the alphabetical index—is being published for the first time.

The Standard List of Establishments is now virtually complete and is in use in all survey areas of the Bureau except Health and Welfare and Education. It includes approximately 120,000 establishments.

To an increasing extent economists analysing current affairs, as well as those in government and business, are appreciating the need for historical perspective, and could make use of historical data in readily available form. Accordingly, the Bureau is preparing to publish about 30 selected series extending into the inter-war period or longer, with and without corrections for seasonality, and with a description of the nature of the series and their discontinuities.





